PTE # 400 (PDF)
June 2002

Emergency Medical Technician - Basic

Technical Committee Report
and Curriculum Guide for
Secondary Education

Idaho
Professional
Technical
Education

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Acknowledgements

The 2002 *Emergency Medical Technician-Basic Curriculum Guide for Secondary Education* reflects a statewide effort to gather input from Idaho's medical professionals who are concerned about and involved with the education and training of entry level EMTs.

Technical Committee Report

The following is a report of the Technical Committee for the Emergency Medical Technician-Basic Curriculum Guide. Under the leadership of Dr. Gary Lauer, this committee revised the Curriculum Guide for the EMT-Basic at the secondary education level (PTE 400). The benefactors of this effort are the people of Idaho receiving quality patient care in the pre-hospital setting of Idaho

The following individuals were responsible for the *EMT Basic Technical Committee Report and Curriculum Guide for Secondary Education*.

Technical Committee

O. Gary Lauer, Ph.D., RT
Program Manger of Health Profession & Education

Dennis Patterson, NREMT-Paramedic
CSI EMT Program Manager

Pepi Brookshire,
RNC, BSN

Pamela Stevens,
NREMT-Paramedic

James Alter,
Regional Operations State EMS

Lana Baird,
EMT-Advanced

Dave Hanneman, EMT-I, Battalion Chief
Deputy Chief Boise Fire Dept., Certified Occupational Specialist

Mary Lou Davis, EMT-Advanced
Freemont CO. EMS Director

Ken Anderson, Paramedic
Idaho Falls Fire Department

Dia Gainor,
State EMS Bureau Chief

Tawni Newton, Provider Resource Coordinator State EMS

Susan Sorensen,
EMT-Advanced

Idaho State Board of Education

Karen McGee
President
Pocatello, ID

Blake G. Hall
Vise President
Idaho Fall, ID

James C. Hammond
Secretary
Post Falls, ID

Paul C. Agidius
Member
Moscow, ID

Marilyn Howard, M.D.
Ex-Officio Member
Boise, ID

Roderic W. Lewis
Member
Boise, ID

Darrell V. Manning
Member
Boise, ID

Idaho Division of Professional-Technical Education

Mike Rush, Ed. D.
Administrator
Boise, ID O.

Ann Stephens, M.S.
Associate Administrator
Boise, ID

Gary Lauer, Ph.D., R.T.
Health Professions Program
Manager
Boise, ID

Idaho Board of Medicine

Bruce W. Honsinger, MD
Chairman
Sandpoint, ID

Layne D. Roberts, DO
Member
Mountain Home, ID

David R. Anderson, MD
Member
Idaho Fall, ID

Jane T. Morfitt,
Public Member
Caldwell, ID

Allen M. Ernster, MD
Member
Lewiston, ID

Wendell L. Wells, MD
Vice-Chairman
Burley, ID

James W. Smith, MD
Member
Boise, ID

Arthur C. Jones, III, MD
Member
Boise, ID

E.D. Strickfaden, Director
Dept. of Law Enforcement
Meridian, ID

Project Sponsorship

On August 21, 2000, College of Southern Idaho received funding authorization to convene the first statewide technical committee for the revision of the *Emergency Medical Technician* Curriculum Guide. Dia Gainor, Director for the State of Idaho EMS identified a statewide technical committee that was composed of technical and content experts from Idaho's EMS profession. Dennis Patterson agreed to serve as committee chairman and reimbursement coordinator.

Background

The *EMT-Basic Curriculum Guide for Secondary Education* is based on the Department of Transportation National Standards Curriculum, and has been adapted to Idaho's particular needs.

Technical Committee Activities

The first technical committee meeting was held August 21, 2000. The focus was on the potential need for an EMT-Basic course at the High School level. The committee also discussed and made recommendations on distributing the grant money, the total sum of $5,000.00.

The next meeting was held November 16, 2000. Discussion consisted of the role State EMS will play. The committee will also review the Department of Transportation (DOT) curriculum and make recommendations regarding changes to the DOT for Idaho's secondary education level's particular needs.

Gary Lauer assigned the breaking down of tasks into identifiable units.

Dave Hanneman was assigned to standardize the committee rewrites standards.

($1,500.00 – Dave Hanneman, $600.00 – Pamela Stevens, $500.00 – Secretary.)

Curricular Assessment

Parameters and Rationale

The final curriculum created by the technical committee was assessed using the number of cognitive and psychomotor tasks that the instructor will hold the student accountable for learning in a single clock hour. The rate that these tasks are delivered was based on a reasonable assumption that in a well developed lesson plan (one that expands the learning points with additional emphasis such as notes, questions and answers, visuals, handouts, etc.) up to 10 single task oriented learning objectives may be presented effectively by qualified instructors during a single clock hour of instruction. Delivery of 10 tasks per lesson plan takes into account lower level knowledge and comprehension learning tasks that may allow more than 10 tasks to be covered during each clock hour. Higher level learning tasks at the application, analysis and synthesis levels may require covering less than 10 tasks. Using 10 tasks per clock hour helps to shape a realistic expectation of the length of the curriculum to be calculated in terms of clock hours (using the formula: total tasks divided by 10 tasks per clock hour equals the total length of course in terms of clock hours). Once the number of clock hours is known, then the number of secondary and postsecondary semester credit hours may be calculated.

Assessing the curriculum using the above parameters tends to be more objective than assessing it based solely on instructor contact hours or by adding recommended study time in hours to clock hours for the purpose of expressing the full dimensions of a course's educational involvement. Emphasis is on the actual time devoted to delivering instruction. In this day of self-instruction, including asynchronous online and mail correspondence courses, instructor contact may be minimal to none. Similarly, recommended study time from one to three hours per clock hour of lecture or lab instruction does not take into account the differences in student

learning rates and levels of interests. Some students will need more study time outside of class to master tasks, some will need less and others will need very little. Therefore, adding recommended study time to clock hours would result in inflated course length and credit values.

Conversion Formulas

The following conversion formulas for secondary and postsecondary institutions were used because they tend to be endorsed by state and regional accrediting agencies. One clock hour refers to a 50 - 60 minute period where lecture, lab, or externship occurs. For secondary schools, one secondary semester credit is awarded for every 90 hours of instruction—a course that meets one period per day, per week for one semester of at least 18 weeks. For postsecondary institutions, each 15-clock hours of lecture will result in one semester credit being awarded. For each 30-clock hours of lab, one semester credit is awarded. For each 45-clock hours of externship (work-based learning), one semester credit is awarded.

For this curriculum, only the didactic (lecture) and skill development lab clock hours were assessed. The 30 hours of clinical observation that students are required to experience toward the end of training is considered to be clock hours of lab instead of clock hours of externship, since students are not being required to perform procedures in the clinical setting but only observe them.

Assessment Results

Emergency Medical Technician-Basic

The didactic (lecture) component of the course is composed of 2023 cognitive-type tasks (learning objectives). Delivering an average of 10 tasks per clock hour defines the length of the didactic portion of the course to be 202.3 hours. This translates into 2.25 secondary semester credits based on a ratio of 90 hours of instruction for one semester credit or 13.49 postsecondary semester credit hours based on a ratio of 15 hours lecture for one semester credit. See Table 1.

The clinical education (lab) component of the course is composed of 267 psychomotor tasks, representing 15 procedures that all students must master. Delivering this instruction at the rate of 10 tasks per clock hour defines the clinical education portion of the course to be 26.7 hours long. This translates into .30 secondary semester credits based on a ratio of 90 hours of instruction for one semester credit or .89 postsecondary semester credit hours based on a ratio of 30 hours lab for one semester credit. See Table 1.

There are 2290 total tasks identified for this course. This translates into a total course length of 229 clock hours and represents 2.55 secondary semester credits or 14.38 postsecondary semester credits. On the basis of this information (and regardless of instructional delivery method utilized), secondary students who successfully complete this course over two consecutive semesters should be awarded three (3) semester credits and postsecondary students should receive 14.0 postsecondary semester credits. See Table 1.

Table 1:
Assessment Summary of the EMT–Basic Curriculum

Curricular Component	Tasks	Tasks Per Clock Hour	Clock Hours (60 Minute Periods)	Secondary Semester Credits	Postsecondary Semester Credits
Didactic (Lecture)	2,023	10	202.3	2.25	13.49
Clinical (Lab)	267	10	26.7	.30	.89
Totals	2290	10	229	2.55	14.38

Statewide Curriculum Guide

The curriculum development and revision process of the Idaho Division of Professional-Technical Education involves the active use of industry and instructor personnel in the form of a technical committee. Their job is to prepare intended outcomes based on a list of tasks (learning objectives) that need to be mastered that will allow graduates of the program to obtain and retain employment once hired and to advance in their chosen professional-technical field. Once these intended outcomes are defined, and then they are assembled into an officially approved document called a statewide curriculum guide.

Statewide curriculum guides are instructional management documents. They specify the important information that is necessary to organize and implement a successful program of instruction and learning, including intended outcomes based on tasks to be mastered, prerequisites, length and level of instruction, delivery options, and resources. Although there is great flexibility for managing a program, certified professional-technical instructors are encouraged to follow the instructional plan recommended in the statewide curriculum guides to ensure that all students achieve mastery of the intended outcomes. After all, these are the outcomes that reflect current industry standards.

Instructor Qualifications

To teach this course as an approved-for-added-cost-reimbursement-funded-course at the secondary level, a person must meet three qualifications. First they must be certified by the State of Idaho, as an ADVANCED EMT. The candidate must also have a minimum of two years experience in the Pre-hospital setting, and they must be a State Approved Instructor for the EMT-B level. Second, they must be certified as a professional-technical educator through the

Idaho Division of Professional-Technical Education. Third, the instructor must participate in professional development activities related to the program to maintain their health professions credential and teaching certificate in good standing.

Prerequisites

Fundamentals to Health Professions

The prerequisite for taking the Emergency Medical Technician-Basic course for high school seniors is successful completion of either the classroom-based, Orientation to Health Occupations for Secondary Students" course or the online "Fundamentals for Health Professions Internet" course during the junior year. These are equivalent courses with different approaches to instructional delivery (classroom-based versus Internet-based). For adult learners, the only prerequisite is acceptance into the program.

Course Level

The Emergency Medical Technician-Basic course is taught at the level of the senior year of high school and to adult learners at private and public postsecondary institutions.

Course Length

The length of the Emergency Medical Technician-Basic course has been assessed at 202.3 hours of lecture and 26.7 hours of lab for a total of 229 contact hours.

Instructional Delivery

In the secondary arena, this course is to be covered during one clock hour per day or may vary according to individual schools, for two full semesters for a total of approximately 180 hours. The first semester will focus on mastery of the didactic (theory) component that includes

any supportive laboratory activities. The second semester will finish the didactics and focus on mastery of the clinical (lab / psychomotor) procedures.

In most instances, the didactic components of this curriculum will be delivered in the traditional classroom setting. However, alternative delivery of the didactic components is encouraged to meet the needs of students who are distant to traditional classroom offerings. Consideration, therefore, should be given to developing distance learning approaches such as mail correspondence, online Internet instruction and digital video-conferencing for the didactic components.

Teacher-to-Student Ratio

The number of students per instructor should follow the State recommendations. The clinical / practical procedures covered in the skill development lab portion of both components should be limited to a student to instructor ratio of one instructor for every six (6) students. This includes students in supervised clinical education.

Evaluation Plan

Students enrolled in the EMT-B course should be required to master 80% of the tasks identified on the written examinations and 100% of the tasks identified on each procedure's skills-check-list. To enable students to meet these requirements, the retaking of examinations is recommended. Examinations for each unit should meet the objectives of the National DOT standards. Textbooks and exam content will be at the discretion of the instructor.

Certificate of Completion

Each person who successfully passes the EMT-B course shall be issued a certificate of completion by the sponsoring educational institution. Each student shall also be eligible to take the National Registry Exam upon completion of the course and providing they are at least 18 years of age.

Program Administration

All programs shall be administered through an approved private or public sponsoring educational institution in conjunction with State EMS. Each program must have a qualified instructor to administer and teach the program.

All instruction should be presented in the sequence identified in this document. The course should articulate with postsecondary programs throughout the state for Tech Prep or dual credit. The clinical procedures section of this curriculum should be converted to a "check-list" evaluation manual for effective execution of a competency-based clinical education and evaluation system.

A plan should be developed to meet the special needs of students. The instructor, in collaboration with the school counselor, should be involved with career guidance services, program promotion, and placement activities. Forming an active chapter with Idaho-Health Occupations Students of America (ID-HOSA) in affiliation with the national student organization, Health Occupations Students of America, Inc, should provide leadership development for students.

Idaho Academic Achievement Standards should be integrated into the curriculum. An annual program evaluation should be conducted to promote, develop and improve the attainment of instructional outcomes. Student follow-up data should be used in program evaluation,

planning and improvement. Facilities used for didactic and clinical education must provide the following:

1. Adequate space for the number of students enrolled in the program.
2. Adequate lighting and ventilation.
3. Comfortable temperature.
4. Appropriate audio-visual equipment and chalkboards (or equivalent).
5. A skills lab with sufficient materials, supplies and equipment that is capable of simulating a basic clinical setting.
6. Resources (equipment, materials, and supplies) are systematically updated maintained, inventoried and replaced.
7. A clean environment where students are provided appropriate safety instruction related to the program.
8. Appropriate numbers of desks and chairs.
9. Appropriate textbooks and references.

Program Approval

Secondary Programs

By becoming a state-approved high school professional-technical education program, school districts receive funds that help the instructor(s) to purchase resources that are essential to organize and implement the program. This can mean as much as $6,840 for a full time health professions educator. To start an approved EMT-B for high school seniors in Idaho, district superintendents must complete Form 10N: Request for a New Secondary Professional-Technical Education Program including: (1) cover sheet, (2) program narrative, (3) equipment and tool list, (4) budget sheet, and (5) course outline. Form 10N can be downloaded off the Internet in PDF version at the Division Web site address: www.pte.state.id.us.

Once Form 10N is completed, then it must be sent in by February 14 of each funding year to qualify to start at the beginning of the next fall semester. Send to:

Health Professions Program Manager
Idaho Division of Professional-Technical Education
650 West State Street, Room 324
P.O. Box 83720, Boise, Idaho 83720-0095

Director, WTN Center
College of Southern Idaho
P.O. Box 1238
Twin Falls, Idaho 83303-1238
Phone: 1-800-680-0274 ext 2302

Director, WTN Center
Idaho State University
Campus Box 8380
Pocatello, Idaho 83209-8380
Phone: 208-282-3372

Director, WTN Center
North Idaho College
525 W. Clearwater Loop
Post Falls, Idaho 83854-9400
208-769-3223

Director, WTN Center
Boise State University
1910 University Drive
Boise, Idaho 83725
Phone: 208-426-3024

Director, WTN Center
Eastern Idaho Technical College
1600 S. 2500 E.
Idaho Falls, Idaho 83404
Phone: 1-800-662-0261

Director, WTN Center
Lewis and Clark State College
8th Ave and 6th Street
Lewiston, Idaho 83501
Phone: 208-799-2439

Proprietary School
Private Schools (not K-12)
State Department of Education
650 West State Street
P.O. Box 83720
Boise, Idaho 83720-0027
Phone: 208-332-6977

Resources

References

O'Keefe, Michael F., Limmer, Daniel, Grant, Harvey D., Murry, Robert H., Bergeron, David J. Emergency Care, Eighth Edition. Brady / Prentice Hall New Jersey

McSwain, Jr. Norman E. M.D., Paturas, James L. The Basic EMT, Second Edition. St Louis , Missouri, Mosby Publisher, 2001

Richard Beebe and Deborah Funk. Fundamentals of Emergency Care. New York: Delmar Publisher, 2001

Mistovich, Joseph M, Hafen, Brent Q., Karren, Keith J. Prehospital Emergency Care. Sixth Edition. New Jersey: Brady, Prentice Hall Health Publishers, 2000

Equipment List

The following list of equipment, materials and supplies is **based on six students per EMT-Basic course** and is recommended to achieve the intended outcomes stated in this curriculum guide.

1. 1 Backboard
2. 1 "Scoop" stretcher
3. 1 Set of C-Collars, preferably a few different brands
4. 1 Set of "spider" straps
5. 1 Set of buckle straps
6. 1 box of 2" medical tape (disposable)
7. Set of 10 towel rolls, made up from tape and white towels
8. Set of 10 "headbed" immobilization devices
9. 1 Short spinal immobilization device, such as a KED
10. 1 Short spine board
11. 1 Airway manikin head
12. 1 Electric suction unit
13. 2 Manual suction units, "V-vac, and Rescue-VAC"
14. Set of hard tonsil suction tips
15. Set of French "whistle tip" suctions
16. Set of oral pharyngeal airways
17. Set of nasal pharyngeal airways
18. Box of water based lubricant for airways (disposable)
19. 4 Different brands of BVM's for adult
20. 2 Child BVM's
21. 2 Infant BVM's
22. 3 Adult non-rebreather masks
23. 3 Pediatric non-rebreather masks
24. 3 Adult nasal cannulas
25. 1 Pediatric nasal cannulas
26. Set of misc. masks for BVM's
27. 2 CPR manikins
28. 6 Pocket masks (1 per student)
29. 1 O2 bottle "D" size
30. 1 "Yoke" type regulator
31. 1"Bourdon tube" regulator
32. 1 PASG
33. 1 Set of Medication Props (tic-tacs, inhalers, epi-pen trainers)
34. 3 Blood Pressure Kits (adult)
35. 1 Multi-cuff System (BP Kit)
36. 1 Moulage Kit (small-medium size)
37. 2 Emergency blankets
38. 1 Set of misc. dressings (4X4's, 5X9''s, Trauma Dressings, Occlusive)
39. 1 Set of Burn towels and sheets
40. 1 Set of Misc. bandages (roller gauze, cloth,)
41. 10 Triangular bandages (different sizes for Joint Immobilization)
42. 10 Chemical cold packs
43. 1 OB Birthing manikin
44. 2 OB Kits (disposable)
45. 1 Set of padded board Splints
46. 1 Set of Air Splints (extremity)
47. 1 Set of Vacuum Splints
48. 1 Sager Traction Splint
49. 1 Hare Traction Splint
50. 1 AED Trainer
51. 1 Tube of Oral Glucose
52. 1 Bottle or tube of Activated Charcoal
53. 1 Bottle of Syrup of Ipecac
54. 1 O2 Bottle wrench
55. 10 Boxes of Latex and non-latex gloves for practice (Different Sizes)
56. 1 Set of 6 pen lights (disposable)
57. 1 Triage Kit with tags